

AGENCY OF ENVIRONMENTAL CONSERVATION
DEPARTMENT OF FORESTS, PARKS AND RECREATION

STATE OF VERMONT

FOREST INSECT AND DISEASE CONDITIONS
SOUTHERN REGION

CALENDAR YEAR 1984

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INTRODUCTION

The information in this report is based largely on aerial surveys to detect defoliation as well as ground surveys and observations of Forest Resource Protection personnel and other forestry staff. Aerial surveys were flown in late August (District I: 8/31, District II: 8/21) to detect defoliation and mortality. Observations from the U. S. Forest Service survey of the Green Mountain National Forest (6/27) are also noted. Diagnostic assistance was provided by the University of Vermont.

The winter of 1984 began with seasonable temperatures and snowfall. A warm spell for several weeks in February led to an early sugaring season which ended abruptly with a cold snap in early March. Spring was cool and wet, with the heaviest rainfall in the month of May. Two successive wet springs have led to a variety of fungus disease problems. Growing conditions for the rest of the season were good with adequate rainfall and warm sunshine.

FOREST INSECTS

Hardwood Defoliators

Gypsy Moth, Lymantria dispar, caused only light defoliation in scattered areas of Bennington County. Low larval populations were detected in focal areas elsewhere in the region, including the towns of Pownal, Rupert, Bennington, Sandgate, Arlington, Brattleboro, Guilford, Bellows Falls, Rutland and West Rutland. Although current egg masses are still hard to find, it appears that they are larger and healthier than those laid in 1983. Plots to monitor low level populations have been established throughout the region.

Tree mortality continues in areas defoliated in previous years, although the mortality rate is dropping. Mortality is heaviest on oak species with additional losses of beech and hardhack. Significant hemlock mortality has occurred in Windham County stands where it is mixed with oak.

A wasp parasite, Rogus lymantriae, was released in Sandgate in cooperation with the U. S. Forest Service. Parasites were released about 7 - 10 days after initial emergence to insure that females (last to emerge) were able to mate. Release times and locations varied to minimize environmental stress on the insect.

<u>Date</u>	<u>Time</u>	<u>Plot</u>	<u>#</u>
May 22	1145	Center	500
May 31	0830	North	1000
June 7	0230	West	1000
June 14	1800	East	1000

Maple Leaf Cutter, Paraclemensia acerifoliella, populations continue to increase, with defoliation of a fifteen acre sugarbush in Pawlet and a twenty acre sugarbush in Rochester detectable from the air. A ten acre sugarbush in Rochester was sprayed with Sevin 80S with good results. Preliminary plans are to reduce the Pawlet infestation by a prescribed fire in autumn. The population remains low in the Pownal sugarbush sprayed in 1983.

Defoliation of white and yellow birch by the birch skeletonizer, Bucculatrix canadensiella, and the birch leaf folder, Ancylis discigerana continues to be widespread in locations throughout the region. An estimated 30,000 acres were affected regionwide. Heaviest damage was at higher elevations in Bennington County.

OTHER HARDWOOD DEFOLIATORS

INSECT	HOST(S)	LOCALITY	REMARKS
Birch Leaf Miner <u>Fenusa pusilla</u>	White Birch Grey Birch	Widespread	Lighter damage than 1983.
Birch Tube Maker <u>Acrobasis betulella</u>	White Birch		Not observed.
Bruce Spanworm <u>Operophtera bruceata</u>	Sugar Maple	So. Woodstock	Moderate defoliation in understory only.
Cherry Scallop Shell Moth <u>Hydria prunivorata</u>	Cherry		Not observed.
Dagger Moth <u>Acronicta sp.</u>	Elm		Not observed.
Eastern Tent Caterpillar <u>Malacosoma americanum</u>	Apple	Arlington	
Elm Leaf Beetle <u>Pyrhalta luteola</u>	Elm	Widespread	Light to moderate defoliation in scattered locations.
Fall Cankerworm <u>Alsophila pometaria</u>			Not observed.
Fall Webworm <u>Hyphantrea cunea</u>	Cherry	Windsor Co.	Moderate to heavy defoliation widespread.
Forest Tent Caterpillar <u>Malacosoma disstria</u>	Hardwoods	Mendon	Single larva observed. State wide damage assessment in progress from previous defoliations.
Gouty Vein Gall Midge <u>Dasineura communis</u>	Sugar Maple		Not observed.
Green Fruitworm <u>Lithophane antennata</u>			Not observed.

HARDWOOD DEFOLIATORS (CONTINUED)

INSECT	HOST(S)	LOCALITY	REMARKS
Green Striped Mapleworm <u>Anisota rubicunda</u>			Not observed.
Half Winged Geometer <u>Phigalia titea</u>			Not observed.
Imported Willow Leaf Beetle <u>Plagiodera versicolora</u>	Willow		Not observed.
Large Aspen Tortrix <u>Choristoneura conflictana</u>			Not observed.
Linden Looper <u>Erranis tiliaria</u>			Not observed.
Locust Leaf Miner <u>Odontata dorsalis</u>	Black Locust	Windham & Windsor Co.	Increasing.
Maple Petiole Borer <u>Caulocampus acericaulis</u>			Not observed.
Maple Trumpet Skeletonizer <u>Epinotia aceriella</u>	Sugar Maple		Observed occasionally.
Maple Webworm <u>Tetralopha asperatella</u>	Sugar Maple		Not observed.
Mountain Ash Sawfly <u>Pristophora geniculate</u>	Mountain Ash	Widespread	Moderate to heavy damage in scattered locations.
Oak Leaf-tier Complex <u>Psilicorsis reflexella</u> <u>Tetralopha sp.</u> <u>Telphusa quercinigraciella</u> <u>Morrisonia confusa</u>	Oak		Not observed.

HARDWOOD DEFOLIATORS (CONTINUED)

INSECT	HOST(S)	LOCALITY	REMARKS
Orange Humped Mapleworm <u>Symmerista leucytis</u>			Not observed.
Pear Sawfly <u>Caliroa cerasi</u>			Not observed.
Pin Oak Sawfly <u>Caliroa sp.</u>	Red Oak	Nefane	Ornamental
Saddled Prominent <u>Heterocampa guttivata</u>	Hardwoods	Rutland Co.	Larvae and light defoliation observed in scattered locations.
Satin Moth <u>Leucoma salicis</u>	Poplar		Not observed.
Solitary Leaf Roller <u>Sparganothis pettitana</u>	Sugar Maple		Not observed.
Spiny Elm Caterpillar <u>Nymphalis antiopa</u>			Not observed.
Spring Cankerworm <u>Paleacrita vernata</u>			Not observed.
Uglynest Caterpillar <u>Archips cerasivoranus</u>	Cherry		Not observed.

SOFTWOOD DEFOLIATORS

INSECT	HOST(S)	LOCALITY	REMARKS
Arborvitae Leaf Miner <u>Argyresthia thuiella</u>	Arborvitae	Widespread	Light damage only.
Introduced Pine Sawfly <u>Diprion similis</u>			Not observed.
Larch Casebearer <u>Coleophora laricella</u>	Larch Tamarack		Not observed.
Larch Sawfly <u>Pristophora erichsonii</u>			Not observed.
Red Headed Pine Sawfly <u>Neodiprion lecontei</u>	Red Pine		Not observed.
Spruce Bud Moth <u>Zeiraphera canadensis</u>	White Spruce		Not observed.
Spruce Budworm <u>Choristoneura fumiferana</u>	Balsam Fir		No moths collected in delta trap set in Pittsfield.
Spruce Needleminer <u>Epinotia</u> sp.	White, Norway & Blue Spruce	Bennington, Grafton, Rutland	Noticeable defoliation in scattered locations. Damage heavier on unthrifty trees. Not observed.
White Pine Sawfly <u>Neodiprion pinetum</u>			
Yellow-headed Spruce Sawfly <u>Pikonema alaskensis</u>	Blue Spruce		Not observed.

SAPSUCKING INSECTS, MIDGES & MITES

INSECT	HOST(S)	LOCALITY	REMARKS
Balsam Gall Midge <u>Paradiplosis tumifex</u>	Balsam Fir		Not observed.
Balsam Twig Aphid <u>Mindarus abietinus</u>	Balsam Fir	Widespread	Light damage.
Balsam Woolly Aphid <u>Adelges piceae</u>	Balsam Fir		Not observed.
Cooley Spruce Gall Aphid <u>Adelges cooleyi</u>			Not observed.
Eastern Spruce Gall Aphid <u>Adelges abietis</u>	Spruce	Widespread	Less damage than recent years.
Hickory Gall Aphid <u>Phylloxera caryaecaulis</u>			Not observed.
Oystershell Scale <u>Lepidosaphes ulmi</u>			Not observed.
Pine Bark Aphid <u>Pineus strobi</u>	White Pine	Widespread	Light populations only.
Pine Needle Scale <u>Chionapsis pinifoliae</u>	Mugho Pine		Not observed.
Pine Spittlebug <u>Aphrophora parallela</u>	E.White Pine	Springfield	Light damage to windbreak.
Pine Thrips <u>Gnophothrips</u> sp.	Scots Pine		
Root Aphid <u>Prociphilus americanus</u>	Balsam Fir Fraser Fir		
Spruce Spider Mite <u>Oligonychus ununguis</u>	White Spruce	Dorset, Bennington	Heavy damage in some locations due to dry 1983 conditions.

BUD, SHOOT AND STEM INSECTS

<u>INSECT</u>	<u>HOST(S)</u>	<u>LOCALITY</u>	<u>REMARKS</u>
Ambrosia Beetle <u>Xyloterinus politus</u>	Birch Maple		Not observed.
Balsam Shootboring Sawfly <u>Pleroneura brunneiicornis</u>			Not observed.
Locust Borer <u>Megacyllene robiniae</u>			Not observed.
Northern Pine Weevil <u>Pissodes approximatus</u>	Red Pine	Springfield	Light damage to Christmas trees.
Pales Weevil <u>Hylobius pales</u>	Christmas trees		Not observed.
Pine Gall Weevil <u>Podapion gallicola</u>	Red Pine		Not observed.
White Pine Weevil <u>Pissodes strobi</u>	Spruce, Pine	Widespread	Increasing, with heavy damage throughout.

BARK BEETLES

<u>INSECT</u>	<u>HOST(S)</u>	<u>LOCALITY</u>	<u>REMARKS</u>
Eastern Larch Beetle <u>Dendroctonus simplex</u>	Tamarack		Not observed.
Pine Engraver <u>Ips pini</u>			Not observed.
Red Turpentine Beetle <u>Dendroctonus rufipennis</u>			Not observed.

FOREST DISEASES

Stem Diseases

Beech Bark Disease, caused by Cryptococcus fagisuga and Nectria coccinea var. faginata, continues to cause mortality. Beech scale populations remain light, but appear to be increasing in Rutland County.

Twelve asymptomatic beech trees in Marlboro were challenged with beech crawlers to test for resistance.

Maple Canker, caused by Steganosporium sp., caused flagging of sugar maple branches throughout the region, particularly roadside trees. Wet spring conditions probably led to the success of this normally weak pathogen.

OTHER STEM DISEASES

<u>DISEASE</u>	<u>HOST(S)</u>	<u>LOCALITY</u>	<u>REMARKS</u>
Black Knot <u>Apiosporina morbosum</u>	Cherry		Not observed.
Brown Rot <u>Monilinia Fructicola</u>	Cherry	Springfield	Ornamental
Dutch Elm Disease <u>Ceratocystis ulmi</u>	Elm	Throughout	Increasing, especially in the Rutland area.
Fireblight <u>Erwinia amylovora</u>	Apple		Observed occasionally.
Hypoxylon Canker <u>Hypoxylon pruinaum</u>	Aspen	Throughout	
Verticillium Wilt <u>Verticillium albo-atrum</u>	Sugar Maple	Rutland	Ornamentals
White Pine Blister Rust <u>Cronartium ribicola</u>	White Pine	Throughout	Increasing.

FOLIAGE DISEASES

<u>DISEASE</u>	<u>HOST(S)</u>	<u>LOCALITY</u>	<u>REMARKS</u>
Fir-Fern Rust <u>Uredinopsis mirabilis</u>	Balsam Fir		Not observed.
Leaf Eye Spot <u>Marsonina guercine</u>	Red Oak	Dorset	Ornamental.
Lophodermium Needlecast <u>Lophodermium pinastri</u>	Scots Pine		Not observed.
Oak Anthracnose <u>Gnomonia guercine</u>	Red Oak	Newfane, Royalton	Ornamentals.
Swiss Needlecast <u>Phaeocryptopus gaumani</u>	Douglas Fir		Not observed.
Sycamore Anthracnose	Sycamore	Throughout	Causing severe dieback due to wet springs.

ROOT ROTS

<u>DISEASE</u>	<u>HOST(S)</u>	<u>LOCALITY</u>	<u>REMARKS</u>
Annosus Root Rot <u>Heterobasidion annosum</u>	Pine		Not observed.
Shoestring Root Rot <u>Armillaria mellea</u>		Throughout	

Diebacks, Declines and Environmental Diseases

Ash Dieback continues to be common throughout, especially on mature trees, causing substantial losses in some areas. In Bennington County, roadside trees are more severely affected than woodland ash.

Larch Decline is causing little new damage in the region. A 35 acre stand in Danby which showed stress symptoms in 1984 did have extensive mortality this year.

White Pine Needle Blight symptoms still visible on trees which were affected in 1983. No new damage was seen.

Winterburn caused by the warm period in February was common on a variety of conifer species throughout the region. Most noticeable was the browning of high elevation spruce.

Mortality from Wet Feet around swampy areas was more extensive than usual this year due to wet spring conditions.

Salt Injury of white pine was unusually severe this year along well-traveled highways.

Leaf Scorch was observed on sugar maples in Pawlet, Dorset, Manchester, and Rutland. Most were in exposed areas, dry soils and open to the sun.

Increased Spruce Mortality was observed on Bear Mountain in Sandgate, Mount Equinox in Manchester and Mount Snow in Somerset. Most areas are at 3,300 ft. to 3,500 ft., with most mortality on western slopes. A survey to assess the extent of spruce mortality is in progress in cooperation with the U.S. Forest Service.

Mortality of red maple and beech attributed to 1982 Wind Storms is increasing in Shaftsbury and Glastenbury. Armillaria root rot is common.

Dieback of balsam fir treated with simazine and atrazine occurred in Windsor County. Some chlorosis and distorted branching was also associated with the damage.

Sugar maple dieback following 1983 defoliation by anthracnose is occurring in a stand in Plymouth.

Spruce blowdown and Windsnap, probably following winter ice storms, was observed in Ludlow, Plymouth and Peru.

ANIMAL DAMAGE

<u>ANIMAL</u>	<u>SPECIES DAMAGED</u>	<u>LOCALITY</u>	<u>REMARKS</u>
Deer	Christmas trees		Not observed.
Mouse			Not observed.
Porcupine		throughout	Increasing. Causing significant losses in scattered locations.
Red Squirrel	Maple Tubing		Problems continue in isolated areas.